SECTION 2 - AFFECTED ENVIRONMENT, POTENTIAL IMPACTS, AND MEASURES TO MITIGATE IMPACTS

As with all proposed projects, MDOT and FHWA have conducted a review of potential social, economic, and environmental impacts associated with Alternative B, the Preferred Alternative. Impacts that had a reasonable possibility for individual or cumulative significant impacts were analyzed further. The result of this analysis and measures to minimize short-term impacts during construction are discussed below. Specific mitigation measures for the proposed replacement of the Fort Street Bridge are described on the *Green Sheet: Project Mitigation Summary* following this section.

2.1 Right-of-Way Impacts

To replace the Fort Street (M-85) Bascule Bridge over the Rouge River, MDOT will need to acquire 0.4 acres of right-of-way on the southeast side of the existing bridge and 0.8 acres of right-of-way on the southwest side of the bridge. The property located on the southeast side of the bridge is owned by Morton Salt Company; while the property located on the southwest side is owned by Marathon Oil Company and Wayne County Department of Public Works. A 0.03 acre portion of the parking lot at the corner of Oakwood Boulevard and Denmark Street and a small portion (0.002 acre) of the corner lot at Fort Street and Reisener Street will be needed.

No residential or commercial structures will be impacted or displaced. All right-of-way will be acquired in conformance with the federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended.

2.2 Social Impacts

The proposed project will not cause any long-term negative impacts on any minority, ethnic, low-income, elderly or handicapped groups, or on area schools, churches, recreation areas, or police and fire protection facilities. No neighborhoods will be permanently separated from community facilities or services. However, there will be temporary impacts to the residents, businesses, community services, motorists, pedestrians, bicyclists, transit users, and emergency services during the two-year construction of the new bridge. MDOT will need to close the existing bridge and detour traffic for two years to construct the new bridge. During the two-year construction period, motorists (including emergency vehicles) and transit and non-motorized users will incur longer travel times and distances in crossing the Rouge River to reach their destinations. Access will be maintained to area businesses and residences located on each side of the river during construction. For a complete discussion of the detour route refer to *Section 2.5 – Maintaining Traffic*.

MDOT has been coordinating with the city of Detroit including the South Schaefer Neighborhood City Hall (formerly known as the Southend Neighborhood City Hall) and the Southwest Detroit Neighborhood City Hall in providing information about the proposed project and detour route. As part of the coordination effort, MDOT received a letter from the South Schaefer Neighborhood City Hall Manager expressing concern about response times for emergency vehicles on both sides of the river. (A copy of the city hall manager's letter is

included in *Appendix C – Correspondence from Resource Agencies*.) To minimize delays in response time of emergency vehicles during the two year construction period, funding will be provided to the city to hire additional staff to respond to emergencies on both sides of the bridge. MDOT will also continue to coordinate with the city's Department of Transportation and the Detroit School District regarding transit routes that will need to be adjusted during the construction of the new bridge.

2.3 Considerations Relating to Pedestrians, Bicyclists, and Transit Users

The existing Fort Street Bridge has eight foot sidewalks on both sides of the bridge which provides connectivity to the existing sidewalks in the adjacent neighborhoods on both sides of the river. During the construction of the new bridge, pedestrians and bicyclists will not be able to use the Fort Street Bridge to cross over the Rouge River. Non-motorized users will have to travel about three-quarters of a mile northwest to the Dix Bridge via Miller Street or about one and one-quarter mile northwest via Oakwood Boulevard, Sanders, and Dix Avenue to cross the river.

Although non-motorized users will be required to travel longer distances to cross over the Rouge River, there are sidewalks and paths adjacent to local streets that pedestrians and bicyclists can use to reach the Dix Bridge crossing. After the new bridge has been constructed, non-motorized users will once again have access to the new eight-foot sidewalks on the bridge. The new bridge will have a barrier between the sidewalk and roadway, which will improve safety for pedestrians and bicyclists. The new eight-foot sidewalks are compatible with the Rouge River Gateway Master Plan and the regional GreenWays Initiative as discussed in *Section 2.10 – Visual Resources*.

SEMCOG has identified Fort Street as a proposed bus rapid transit corridor. Construction of the new bridge will not preclude the development of bus rapid transit along the Fort Street corridor.

2.4 Environmental Justice

The purpose of Executive Order 12898 on Federal Actions to Address Environmental Justice in Minority and Low-Income Populations is to identify, address, and avoid disproportionately high and adverse human health or environmental effects on minority and low-income populations. Disproportionately high and adverse human health or environmental effects on minority and low-income populations are not anticipated as a result of this project.

The presence of minority and low-income populations within the affected area was determined by an analysis of the U.S. Census Data for 2000, field reviews, and discussions with local officials. The minority population in the city of Detroit is more than 85 percent, while 26 percent of the residents in the city are considered low-income per the poverty guidelines established by the U.S. Department of Health and Human Services. The minority population in the project area varies from 98 percent in the Boynton sub-community which is located on the west side of the Rouge River to 67 percent in the Vernor sub-community which is located on the east side of the Rouge River. The low-income population for these two subcommunities also varies. The percentage of residents who are considered low-income in Boynton and Vernor is 20 percent and 31 percent respectively.

The proposed replacement of the Fort Street bascule bridge, which includes closing the bridge and detouring traffic over local roads for two years, will cause temporary impacts that were discussed in *Section 2.2- Social Impacts*. However, the proposed action will not cause permanent disproportionately high and adverse effects on minority or low-income populations within the project.

The proposed project, when completed, will provide the following benefits to the residents and motorists who travel over the bridge each day. MDOT will realign the Oakwood Boulevard/Fort Street intersection by improving traffic flow and lane identification. Of the three southbound lanes, the left and middle lane would be exclusive Fort Street lane and the right lane would be an exclusive Oakwood Boulevard lane.

MDOT has held several meetings with local stakeholders including neighborhood groups and city officials to inform them of the proposed project and the two year detour that will be required during construction of the new bridge. A public hearing on the proposed project will be held for the public after the Environmental Assessment has been signed by FHWA.

The proposed project will not cause disproportionately high and adverse effects on minority and low-income populations located in and near the project area at this time. However, a continuing effort will be made to identify disproportionately high and adverse impacts to minority and low-income populations during subsequent phases of this project. If such impacts are identified, every effort will be made to involve the impacted groups in the project development process, and to avoid, minimize, or mitigate these impacts.

2.5 Maintaining Traffic during Construction

MDOT has developed a plan to maintain traffic during the construction of the new bascule bridge. A two-year detour route will be required for vehicular traffic, while boat traffic will be maintained on the Rouge River during construction. Disruption of traffic in the construction area will be minimized to the extent possible. Although control of all construction-related inconveniences is not possible, motorist and pedestrian safety will be ensured by signing all construction areas.

MDOT proposes to detour through Fort Street traffic to I-75 between Schaefer Road and Springwells Road; with local traffic (including transit) being detoured to Miller Road, Dix Avenue, and Oakwood Boulevard *(*see *Exhibit 6 – Through Traffic Detour for Fort Street)*. Motorists, pedestrians, and bicyclists will be able to cross the Rouge River at the Dix Bridge approximately three-quarters of a mile northwest of Fort Street via Miller Street or about one and one-quarter mile northwest of Fort Street via Oakwood Boulevard, Sanders, and Dix Avenue. Access to local businesses and residences will be maintained during construction. Bus service for area residents will be maintained on local roads during construction. MDOT will coordinate with the Detroit Department of Transportation (DDOT) and other transit providers to accommodate users.

A component of the Maintaining Traffic Plan will be the development and implementation of a Motorist Information Plan (MIP). The MIP will include electronic message signs along I-75 and Fort Street informing motorists that the Fort Street Bridge is closed to vehicular and non-motorized traffic, and that through traffic is being detoured on to I-75 with local traffic being detoured to Miller Road, Dix Avenue, and Oakwood Boulevard. The message signs will also inform motorists and non-motorized users that local access to residences and businesses within the project area is being maintained during construction.

2.6 Land Use

The general land uses adjacent to the historic bascule bridge are zoned for intense industrial use. The properties located on the south side of the bridge include the Marathon Oil Refinery and the Morton Salt Company. The other land uses adjacent to the bascule bridge include a vacant parcel located northeast of the bridge, and a commercial property located northwest of the bridge. A residential neighborhood is located just west of the bascule bridge; while industrial and commercial uses can be found east of the bridge along Fort Street and Miller Road. The proposed improvements will not change existing land use patterns in the area and is consistent with the city of Detroit's master plan.

2.7 Indirect and Cumulative Impacts

The proposed replacement of the bascule bridge is not expected to generate an increase in traffic volumes or alter travel patterns in the area after construction has been completed. However, there will be short term impacts for motorists and residents who need to travel over the Rouge River during construction. As previously mentioned, a two year detour will be required during the construction of the new bridge. Through traffic will be detoured to I-75 between Schaefer Road and Springwells Road; with local traffic being detoured to Miller Road, Dix Avenue, and Oakwood Boulevard. Traffic will not be detoured through residential neighborhoods. Motorists and non-motorized users will incur longer travel times and distances during the two years that the bridge is under construction. Access will be maintained to local businesses and residents in the project area.

The proposed project, when completed, will provide the following benefits to the residents and motorists who travel over the bridge each day. MDOT will realign the Oakwood Boulevard/Fort Street intersection by improving traffic flow and lane identification. Of the three southbound lanes, the left land and middle lane would be an exclusive Fort Street lane and the right lane would be an exclusive Oakwood Boulevard lane.

The proposed project will not have an adverse affect on other projects being proposed in the area. The construction of the bascule bridge is the first step towards improving the M-85 (Fort Street) Corridor which begins at Clark Street and terminates at I-75/Schaefer in Detroit. MDOT is developing a strategy to improve the roadway and structures within this corridor including the reconstruction of the crossovers in front of the Marathon Ashland Petroleum facility, adjusting drainage structures, spot repairs, and pavement milling and resurfacing of Fort Street over the next ten years. The proposed improvements will also support the Marathon Ashland Refinery expansion plans to increase refinery output, which will generate more traffic to the facility. The

Detroit Intermodal Freight Terminal (DIFT) study, the proposed I-94 rehabilitation project from Connor to I-96, and the Ambassador Bridge Gateway study are also in close proximity but will not be affected by this proposed project.

2.8 Historic and Archaeological Resources

The FHWA, the State Historic Preservation Office (SHPO), and MDOT concur that the proposed bridge replacement would have an adverse effect on the Fort Street bascule bridge (*Appendix C – Correspondence from Resource Agencies*). The bridge, built in 1922, is considered a historic resource and is eligible for listing on the National Register of Historic Places. The historic integrity of the bridge has been compromised by the replacement of approach railings and, in particular, by the removal of the operator's house at the southwest end of the bridge. There have been minor alterations to the remaining operator's house at the northeast end. While structural conditions range from fair to poor, neither the bridge's deterioration nor its integrity preclude its eligibility for listing on the National Register of Historic Places.

The Fort Street bridge has long been a gateway into Detroit and carries considerable historical significance. The bridge was built at a time when the city was becoming a world-class industrial city, spurred by the phenomenal growth of the auto industry. The bridge met the need of ever-growing automobile traffic and, for many years, accommodated streetcars. The bridge was, and still is, a critical crossing for people traveling to and from Detroit and Dearborn. The bridge provides a crucial link between traditional working-class neighborhoods with strong ethnic associations. Through the years these neighborhoods have prospered and struggled, but have always remained viable.

The need for this Chicago-style trunnion bascule bridge, as well as a sister bridge at Dix Road and the bascule bridge at Jefferson Avenue, was triggered by the development of the Ford Rouge Plant during and after World War I. Henry Ford's revolutionary complex controlled the process of building automobiles from raw materials to showroom-ready product. This required the Rouge River to be navigable by large freighters. The Wayne County Road Commission, at the request of Ford, undertook major improvements to accommodate the growing factory complex, which in addition to meeting a growing consumer demand, also was an important defense supplier.

As expressed by a state historical marker affixed to the Operator's House, the bridge was an important crossing during the Hunger March of 1933, one of the volatile clashes between the auto industry and the emerging *International Union, United Auto Automobile Aerospace and Agricultural Implement Workers of America*, commonly referred to as the United Auto Workers (UAW). The bridge and its setting provide a visible and accessible locale for interpreting the development of the modern auto industry and the rise of the modern labor movement, both of which are major events with international significance. Further information about the historic significance of the bridge is provided in *Section 3.3 of the Section 4(f) Evaluation*.

The SHPO and MDOT have concurred that the proposed alternatives will not affect any archaeological sites eligible for listing on the National Register of Historic Places.

Mitigation measures. Refer to *Section 3.6 of the Section 4(f) Evaluation* for details about proposed mitigation measures for historic resources.

2.9 Recreational Resources

There are no public recreational areas located adjacent to the proposed project. Barolo Park is located near the proposed detour route, however, access will be maintained to the park during construction and no impacts are anticipated.

2.10 Visual Resources

The project location is situated in an urban area with a mix of industrial, commercial, and residential landscape elements. A combination of natural and built features provides visual contrast to the area. The Rouge River, the dominant natural feature of the project area, is maintained as an active shipping channel from the turning basin north of the bridge to the river's mouth at Zug Island. According to the U.S. Environmental Protection Agency, the Rouge River is considered impaired for aesthetic value in all branches except some headwater areas. Unnatural color from waste water discharges, solid waste, oil, and unnatural odors diminish the river's aesthetic quality.

Several built elements, visible both within and from the project area, have significant lines and forms that create interesting visual character. The primary built feature, which is also historically significant, is the existing bascule bridge and the remaining operator's house. Other dominant built features include the bascule railroad bridge and I-75 to the south and various industrial storage tanks. Morton International stockpiles salt in an area directly adjacent to the project area. When the stockpile is present, it also presents an interesting visual feature. The large ships that pass through the channel when the bridge is lifted offer transitory visual interest.

The general quality of visual resources will be improved by the proposed bridge replacement. The only potential adverse impact to visual conditions would be the removal of the operator's house of the existing bridge. All efforts will be made to retain the operator's house and incorporate it into an interpretive site. Improvements to visual quality through an architecturally appropriate bridge design would benefit both users of the bridge and the communities on either side of the structure. The improved visual quality of the project area would help create a positive response in users and enhance community pride of residents.

The new bridge, which would accommodate pedestrians and bicyclists, is compatible with the Rouge River Gateway Master Plan and the regional GreenWays Initiative. Although the proposed bridge project lies within the Rouge River Gateway area, the master plan does not include specific plans for the Fort Street bridge. The plan, developed through a collaborative effort of the Rouge River Gateway Partnership, proposes a public multi-modal pathway for the entire length of the gateway along with signage at key sites to interpret the region's history and environmental restoration efforts.

Mitigation measures. The proposed bridge project will improve the aesthetic value of the project area. The project provides an opportunity to improve visual quality through attention to

architecturally appropriate bridge design as well as the development of an interpretive site. If feasible, the operator's house will be retained and incorporated into the interpretive site. The site would explain the historic nature of the bridge as well as the development of the local labor movement. (See *Section 3.6* of the *Section 4(f) Evaluation* for further details).

2.11 Coastal Zone

This proposed project lies within the coastal zone boundary as defined by the Coastal Zone Management Act. Issuance of the Michigan Department of Environmental Quality (MDEQ) permits assures consistency with the Coastal Zone Management Plan. See *Section 2.19 – Permit Discussion*.

2.12 Floodplains/Hydraulics

The proposed bridge replacement is located within the 100 year floodplain. No significant adverse impacts or increased risk due to increased flood hazards will occur on adjacent properties based upon the preliminary hydraulics analysis conducted during the design review process for the preferred alternative. The analysis assumes retention of the operator's house in its existing position and the removal of all approach fill down to natural ground elevations on the right overbank (looking downstream). Modeling of the proposed design shows that no harmful interference will result as a consequence of the project because the backwater elevation decreases by 0.12 feet with the proposed bridge replacement. For more details, see Appendix D.

Review of the project area for a distance of 500 feet upstream and downstream of the existing bridge was undertaken to identify natural and beneficial floodplain values. Alteration of the riparian zone has effectively eliminated most natural floodplain functions and values. The functions and values evaluated include: fish, wildlife, plants, open space, natural beauty, scientific study, outdoor recreation, agriculture, aquaculture, forestry, natural moderation of floods, water quality maintenance, and groundwater recharge. Of these, fisheries values and waterborne recreation use are retained and unaffected as movement between the nearest upstream obstruction and the confluence with the Detroit River will continue.

Economic and commercial values attached to this reach of the river accrue from the flow of goods and services provided by the floodway via ship and barge traffic. The docking of tugs and other watercraft at Fordson Island on the south shore of the Rouge River will benefit by the proposed construction as the span will be increased from 135 feet to a minimum of 182 feet (wall to wall), increasing the horizontal clearance from the existing 118 feet to 135 feet between the face of the fendering system. Passage of vessels will not be hampered by the new bridge as it will remain as a bascule. The proposed project would not support incompatible floodplain development because it does not support development within the floodplain or alter existing access to the floodplain. The proposed project would maintain local and regional access to existing commercial and industrial facilities and is consistent with zoning and land use plans of the city of Detroit.

Mitigation measures. The MDEQ mandates that no change in flood stage should take place on properties adjacent to the project. Given that a decrease of 0.12 feet in flood stage from existing

condition is anticipated based on results of the hydraulics model, no mitigation for backwater increase is needed. Mitigation for floodplains will include removal of the existing south abutment and approach road will be undertaken as part of the final design.

2.13 Wetland Impacts

Review of the Detroit U.S. Geological Survey Map and National Wetland Inventory (NWI) map indicated no wetlands occur at the project site. A MDEQ site inspection in fall 2000 and an MDOT field review in spring 2003 support the inventory information.

2.14 Water Quality

The oldest and most heavily populated and industrialized area in southeast Michigan is located within the Rouge River Watershed. The Rouge River has four main branches totaling 125 miles of waterways primarily flowing through Wayne and Oakland counties, with some headwaters in Washtenaw County. The Rouge drains a 438 square mile area that includes more than 400 lakes and ponds, and more than 50 miles of parkland along its banks. The river winds its way through 48 communities and provides recreational opportunities for more than 1.5 million people. The lower four miles of the river are maintained as a shipping channel from the turning basin upstream of the project to the river's mouth at the south end of Zug Island. The flow rate of the Rouge River at the Fort Street bridge crossing is usually at least 28 cubic feet per second.

Problems that have impaired desired uses of the river include restrictions on fish and wildlife consumption, degradation of fish and wildlife populations, fish tumors or other deformities, degradation of benthos (plants and animals on the river bottom), restrictions on dredging activities, eutrophication or undesirable algae, beach closings, degradation of aesthetics, and loss of fish and wildlife habitat.

Post construction impacts. Drainage from the bridge deck discharges directly to the river through the open grate deck structure of the existing bascule bridge. This drainage conveys sediment and other pollutants associated with road run off directly to the river. The new bridge structure will also have an open grate bridge deck. However, pollutants discharged from the bridge deck are not expected to cause water quality issues due to the relatively small amount of bridge deck drainage in comparison to the total flow of the river.

The project will not result in a significant amount of new impervious area. Where feasible, drainage from the road and approaches will be routed overland, and thus be filtered by vegetation prior to being discharged to the river. There are no anticipated post construction impacts from this project that will affect the designated uses of the Rouge River.

Soil erosion and sedimentation control during construction. Accelerated sedimentation caused by construction will be controlled before it enters the Rouge River or leaves the right-of-way by the placement of temporary or permanent erosion and sedimentation control measures. MDOT has developed a series of standard erosion control items to be included on design plans to prevent erosion and sedimentation. The design plans will describe the erosion controls and their locations. The following is a partial listing of general soil erosion and sedimentation control

measures to be carried out in accordance with permit requirements.

- No work will be done in the Rouge River channel during periods of seasonally-high water, except as necessary to prevent erosion.
- Road fill side slopes, ditches, and other raw areas draining directly into the Rouge River will be protected with riprap (up to three feet above the ordinary high water mark), sod, seed and mulch, or other measures, as necessary to prevent erosion.
- Areas disturbed by construction activities will be stabilized and vegetated within five days after final grading has been completed. Where it is not possible to permanently stabilize a disturbed area, appropriate temporary erosion and sedimentation controls will be implemented. All temporary controls will be maintained until permanent soil erosion and sedimentation controls are in place and functional.
- The contractor shall have the capability of performing seeding and mulching at locations within 500 feet of any streams or drains within 24 hours of being directed to perform such work by the project engineer.
- Special attention will be given to protecting the natural vegetative growth outside the project's slope stake line from removal or siltation. Natural vegetation, in conjunction with other sedimentation controls, provides filtration of runoff not carried in established ditches.
- The contractor is responsible for preventing the tracking of material onto local roads and streets. If material is tracked onto roads or streets, it shall be removed.

Mitigation measures. All disturbed sewer lines will be addressed in accordance with local ordinances. Due to the urban nature of the area, abandoned water wells and septic systems are not likely to be present. In the event that these systems are encountered during construction, they will be addressed in accordance with the local ordinance requirements. Beyond all these items, all other Michigan Department of Community Health (MDCH), local health department and MDEQ requirements designed to protect surface and groundwater quality will be met.

2.15 Fisheries and Wildlife

This reach of the Rouge River is classified by the Michigan Department of Natural Resources (MDNR) as a cool water stream. Characteristic species of game fish include Largemouth Bass, Smallmouth Bass, Channel Catfish, and Northern Pike, with an occasional Steelhead (personal communication G. Townes, MDNR). Historical changes made to the stream bed in the form of dredging and stream bank stabilization by the use of seawalls have eliminated spawning and nursery areas associated with shallow, vegetated waters. Fish use in the project area is limited to passage as far as the first dam upstream and the confluence with the Detroit River downstream.

Observations of wildlife use revealed no use of the bridge structure for nesting by any avian species, and occasional use of the structure for loafing by Ring-billed Gull. Use of the river for active foraging by waterbirds (waterfowl, herons, grebes, and gulls) was not observed on any site visit in the immediate vicinity of the bridge. No amphibian, reptile, or mammal species were

observed. Wildlife cover and food resources are limited and those terrestrial species observed are characteristic of urban environments.

Mitigation Measures. To protect potential fish spawning activity and larval fish development, no work in the Rouge River will be allowed between March 1 and May 31. Work may occur within cofferdams if they are installed prior to the protection date.

2.16 Endangered and Threatened Species

Endangered and threatened species are officially protected in Michigan by both federal and state Endangered Species Acts, Public Law 93-205 and Part 365 of Public Act 451 (Natural Resources and Environmental Protection Act) respectively. An endangered species (E) under the Acts is defined as in danger of extinction throughout all or a significant portion if its range. A threatened species (T) under the Acts is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. Special Concern (SC) species are not afforded legal protection under the Michigan Act but are of concern because of declining populations within Michigan, or are species for which more information is needed. A candidate species is a species for which the U.S. Fish and Wildlife Service has sufficient information on their biological status to propose them as threatened or endangered under the Federal Endangered Species Act, but for which development of a proposed listing regulation is precluded by other higher priority listing activities.

There are no Federal or State listed threatened or endangered species, or any species proposed for listing, known to be present at the project site based upon database searches and field inspections.

Correspondence from the U.S. Fish and Wildlife Service dated September 10, 2003, states that "…information in our files does not indicate the presence of any federally endangered, threatened, or proposed species, or designated or proposed critical habitat in the action area." Comments from the MDNR in their letter dated May 19, 2003, indicate that the project "should have no impact on rare or unique natural features at the location specified above if it proceeds according to the plans provided." Both agency letters are included in Appendix C.

2.17 Noise

The project area is primarily surrounded by industrial and commercial properties with a few residences east and northwest of the project area. No noise analysis will be required for this project. Noise mitigation, such as a noise wall, is usually not provided for commercial or industrial properties, because a noise wall may interfere with the view of and access to the property. The location and number of residences do not make noise abatement reasonable or feasible as required by MDOT's Noise Abatement Policy #10136.

Mitigation measures for construction noise levels and vibration impacts. Construction noise will be minimized by measures such as requiring that construction equipment have mufflers, that portable compressors meet federal noise-level standards for that equipment, and that all portable equipment be placed away from or shielded from sensitive noise receptors if at all possible. All

local noise ordinances will be observed.

Where pavement must be fractured or structures must be removed, care will be taken to prevent vibration damage to adjacent structures. In areas where construction-related vibration is anticipated, basement surveys will be conducted before construction begins to document any damage caused by highway construction. Locations of structures potentially affected by vibration damage will be identified during the design phase.

2.18 Air Quality

The Fort Street Bridge project is located in an area that has been designated by the U. S. Environmental Protection Agency (EPA) as a maintenance area for carbon monoxide (CO). EPA announced on April 15, 2004, that Wayne County was designated in non-attainment for ozone under the 8-hour ozone standard. The designation took effect on June 15, 2004. EPA has given all areas designated as non-attainment for the 8-hour ozone standard a one year grace period to study and prepare an implementation plan to address conformity to the 8-hour standard. Wayne County will remain under its present status as a maintenance area for ozone under the 1-hour ozone standard until the grace period is over. The project is a bridge reconstruction without any lane additions and therefore is exempt from conformity procedures under 40 CFR part 93.126 "Exempt projects."

CO is a local health concern since it dissipates quickly over a distance. A CO microscale, or "hot spot," analysis is typically done at intersections where congestion from increased capacity and extended queuing occurs. The Preferred Alternative shifts the alignment of the Oakland Boulevard and Fort Street intersection, south of the bridge, closer to potential receptors which are in an industrial area with little pedestrian traffic. The MDOT 2003 Sufficiency Report gives the project section of Fort Street a level of service "A" (LOS-A) which is defined as "free flow operations." A free flow operation allows for a greater mix of the air and diminishes the concentration of CO and other pollutants. Since the bridge reconstruction is not being done due to increased capacity and has little to no congestion that could elevate CO levels, a CO hot-spot analysis is not required.

The project is in MDOT's long range plan and is included in the State Transportation Implementation Plan (STIP) for 2004 and has been included in the STIP Air Quality conformity plan.

Mitigation measures during construction. The contractor must comply with all federal, state, and local laws and regulations governing the control of air pollution. During the construction of the project, the contractor will be responsible for adequate dust-control measures so as not to cause detriment to the safety, health, welfare, or comfort of any person, or cause damage to any property, residence, or business.

All bituminous and portland cement concrete proportioning plants and crushers must meet the requirements of the rules of Part 55 of Act 451, Natural Resource and Environmental Protection. For any portable bituminous or concrete plant or crushers, the contractor must apply for a permit-to-install or a general permit from the Permit Section, Air Quality Division, of the MDEQ.

This permit-to-install should be applied for a minimum of 30 calendar days for plants with an active MDEQ permit (or 60 calendar days for plants not previously permitted in Michigan) prior to the plant being installed. For proposed plant sites in Wayne County, the contractor should apply directly to the Wayne County Department of Environment, Air Quality Management Division.

Dust collectors will be provided on all bituminous and concrete proportioning plants. Dry, fine aggregate material removed from the dryer exhaust by the dust collector will be returned to the dryer discharge unless otherwise directed by the project engineer.

2.19 Sites of Environmental Contamination

A Project Area Contamination Survey (PACS) was performed to determine if known or potential sites of environmental contamination exist that could affect the project's design, cost, or schedule. The PACS included a historical records review and identified three potential sites within the proposed project area: a former gasoline station and two industrial properties. In addition, the potential for contaminated river sediment was identified. As a result of the PACS, MDOT determined that further investigation was needed.

A consultant was hired to perform the Preliminary Site Investigation (PSI). The consultant's PSI analyzed eight soil borings and two groundwater samples in the project area. The sampling locations are shown in Appendix E. Concentrations of each compound tested were compared to the State of Michigan Part 201 Generic Cleanup Criteria and Screening Levels as established by the Michigan Natural Resources and Environmental Protection Act, 1994 PA 451, as amended.

Test results from the groundwater sample at B-4 detected metal constituents at concentrations above state criteria. Chromium and silver exceeded one or both of the drinking water protection and groundwater-surfacewater interface protection criteria. Some of the soil samples collected did have concentrations of contamination above state criteria. Boring B-7 has levels of benzo(a)pyrene that exceed the direct contact criterion for residential and commercial I exposure and fluoranthene and phenanthrene exceeded the groundwater-surfacewater interface protection criteria. Soil samples from borings B-1, B-2, B-3, B-4, and B-7 contained one or more metals that exceeded the groundwater-surfacewater interface protection criteria. Arsenic levels exceeded the residential and commercial I direct contact criterion in B-1 and B-4. One small area under the existing road on the west end of the bridge will need additional environmental testing to determine if any contamination exists that will affect the removal of the pavement in that area. If testing indicates that contamination is present, MDOT will properly remove and dispose of any contamination.

Mitigation measures. Exceedances of groundwater-surfacewater interface and direct contact criteria will require mitigation measures to be taken for this project. All areas of contamination must be noted in the plans and marked with a shaded area. Contaminated soils that are excavated and reused as fill shall not be relocated to a different area within the construction site. If contaminated soil must be removed from the site it will need to be tested and transported to a licensed landfill that will accept these wastes.

Dewatering may be needed, due to construction work below the water table at this site. All dewatering will be pumped to a holding tank. Disposal of this water will be done in accordance with all applicable regulations. Analytical testing of the water and authorization from the MDEQ will be required prior to the water being discharged to the river or storm sewers. The groundwater may also require treatment before being discharged or may be hauled and disposed of at an appropriate facility.

Sediment in the Rouge River may be contaminated and proper measures must be taken to contain any disturbed sediments. In addition, proper measures for disposal of sediments must be followed. The proposed project will result in a short term increase of sediment discharges in storm water run off during construction. Some excavation of river bottom material will occur during construction. Appropriate characterization of river sediment in this area and implementation of appropriate best management practices (BMPs) such as coffer dams and turbidity curtains will minimize sediment disturbance and control sediment loss in the river. Sediment sampling and testing was performed adjacent to the bridge in the year 2000 and one sample near the southeast corner of the bridge found levels of arsenic to be above its Residential and Commercial Direct Contact Criteria. River bottom material from within the proposed construction area will be sampled and characterized for all appropriate contaminants including PCBs before construction begins.

Due to the fact that groundwater-surfacewater interface criteria was exceeded for all land uses, a sub-surface utility plan will be needed to ensure that no deep utility cuts will impact any contaminated areas. Construction activities will need to avoid installing new utilities through contaminated areas identified in the PSI. Routing utilities through contaminated areas identified creates the potential for contaminated groundwater to migrate along the utility cut to the river. If contaminated areas cannot be avoided, steps will be taken to prevent the migration of contaminated groundwater along the utility corridor to the river (e.g., appropriate installation of check dams or use of a nonporous backfill). Information obtained in the PSI will also be used to plan for disposal of contaminated media generated during construction.

A Risk Management Plan which includes a Worker Health and Safety Plan will be needed before construction begins to address direct contact issues with contaminants. Construction site precautions must be taken to reduce dermal exposure. Soil erosion and sedimentation controls should also be installed and monitored during soil disturbance activities. An Environmental Risk Assessment, included in Appendix F, has been written for the work on M-85 over the Rouge River.

References: Preliminary Site Investigation Report by *psi* consulting firm
Environmental Risk Assessment for M-85

2.20 Permits Required

Construction activities for the proposed bridge replacement over the Rouge River will require several state and federal permits:

State: Natural Resources and Environmental Protection Act, PA 451 of 1994

- Part 31 – Water Resources Protection
- Part 301 – Inland Lakes and Streams
- Part 55 – Air Pollution Control

Federal:

- Section 9 of the Rivers and Harbors Act of 1899
- Section 10 of the Rivers and Harbors Act of 1899
- Sections 401 and 404 of the Federal Water Pollution Control Act of 1972

Parts 31 and 301 are administered by the MDEQ. A Part 31 Water Resources Protection Construction Permit (which is reviewed and issued with the Part 301 application) is needed to place fill material within any part of a floodplain with a drainage area of two square miles or greater. MDOT also has a statewide National Pollutant Discharge Elimination System (NPDES) storm water permit which requires mitigation of post construction storm water impacts to the maximum extent practical for all new construction projects within the state's urbanized areas. A Part 301 Inland Lakes and Streams Permit is required for any work below the ordinary high water mark of any inland lake, stream or drain including the placement of a permanent or temporary river crossing, haul road, or construction access pad.

Soil erosion and sedimentation control permits for this project will not be required. However, MDOT will follow the approved Soil Erosion Control Program and Standard Plan on file with the MDEQ.

A Coast Guard Bridge Administration Program Permit, Section 9 of the Rivers and Harbors Act of 1899, will be needed. The permit will be based on a horizontal clearance of at least 135 feet and will follow other safety and navigational requirements outlined in the Coast Guard's letter dated November 22, 2000, which is included in Appendix C. A Section 10 permit, administered by the U.S. Army Corps of Engineers, will also be required.

Final mitigation measures proposed in areas requiring permits will be developed in consultation with the appropriate resource agencies and will be included on the design plans and in the permit application.

2.21 Additional Measures to Minimize Impacts

The goal of mitigative measures is to preserve, to the greatest extent possible, existing neighborhoods, land use, and resources while improving transportation. Although some adverse impacts are unavoidable, MDOT takes precautions to protect as many social and environmental systems as possible through route location, design, environmental, and construction processes. Construction activities that include the mitigation measures described below are those contained in the current *Michigan Standard Specifications for Construction*.

The following paragraphs discuss other general mitigation concepts that are currently being considered. Without the benefit of detailed design plans and data, tentative mitigation ideas are proposed as a means to avoid or reduce adverse impacts on identified resources. Further agency coordination will continue through the design stage. Design plans will be reviewed by MDOT personnel prior to contract letting in order to incorporate any additional social, economic, or environmental protection items. Construction sites will be reviewed to ensure that the mitigation measures proposed are carried out and to determine if additional protection is required.

The Project Mitigation Summary "Green Sheet" at the end of this section identifies all specific mitigation items set up for this project. More mitigation measures may be developed if additional impacts are identified. Specific mitigation measures will be included on the design plans and permit applications.

Measures to Mitigate Right-of-Way Acquisition Impacts
Compliance with State and Federal laws. Acquisition assistance and advisory services will be provided by the MDOT in accordance with the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended; and Act 87, Michigan P.A. 1980, as amended.

Purchasing Property. MDOT will pay just compensation for fee purchase or easement use of property required for transportation purposes. "Just compensation" as defined by the courts is the payment of "fair market value" for the property rights acquired plus allowable damages to any remaining property. "Fair market value" is defined as the highest price estimated, in terms of money, the property would bring if offered for sale on the open market by a willing seller, with a reasonable time allowed to find a purchaser, buying with the knowledge of all the uses to which it is adapted and for which it is capable of being used.

Property Acquisition Information. A booklet entitled *Public Roads & Private Property* detailing the purchase of private property can be obtained from the Michigan Department of Transportation, Real Estate Support Area, P.O. Box 30050, Lansing, Michigan, 48909 or phone (517) 373-2200.

Existing Vegetation
Although some tree removal may be necessary, the existing natural and ornamental vegetative cover will be retained wherever possible within the . Where the existing groundcover must be removed, replacement vegetation will be established in a timely manner using seed and mulch, or sod.

Disposal of Surplus or Unsuitable Material
Surplus or unsuitable material generated by removal of structures, trees, peat, etc., must be disposed of in accordance with the following provisions designed to control the possible detrimental impacts of such actions.

- When surplus or unsuitable material is to be disposed of outside the right-of-way, the contractor shall obtain and file with MDOT written permission from the owner of the property on which the material is to be placed. In addition, no surplus or unsuitable material is to be disposed of in any public or private wetland, watercourse, or floodplain without prior approval (and permit) by the appropriate resource agencies and the Federal Highway Administration.
- All regulations of the MDEQ governing disposal of solid wastes must be observed.

Continuance of Public Utility Service
Water, sanitary sewer, gas, telephone, and electrical transmission lines adjacent to or crossed by the project may require relocation or adjustment. If this should be the case, coordination between MDOT and the affected utility company will take place during design and relocation will take place prior to construction of the road if possible. The contractor will coordinate construction activities with affected utility companies.

Service to the project area may be temporarily interrupted during the adjustment period. For the most part, the effects of this work will go unnoticed.

Additional Mitigation or Modifications
The final mitigation package will be reviewed by division representatives on the MDOT project study team, in cooperation with concerned state, federal, and local agencies. Some changes in the early mitigation concepts discussed in this document may be required when design begins or when in-depth soil borings are taken and analyzed. These mitigation concepts will be implemented to the extent possible. Where changes are necessary, they will be designed and field reviewed before permits are applied for and construction begins. Changes may also be necessary during the construction phase, but they will reflect the early mitigation intent. These preceding mitigation concepts are based on the best information available through June 2004.